

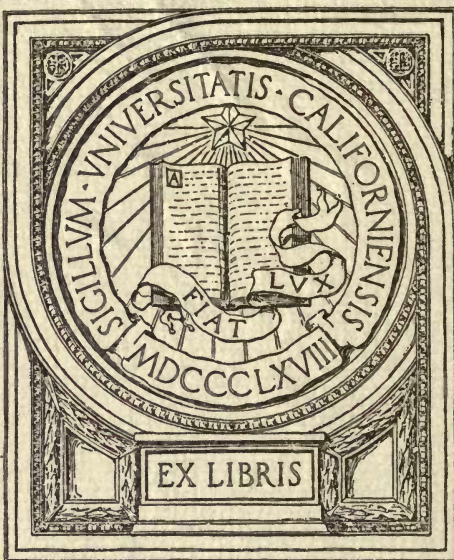
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HOLSTEINS AS BEEF CATTLE



By HAROLD McALISTER
CHINO, CALIFORNIA

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Holsteins as Beef Cattle

(By HAROLD McALISTER, Chino, Cal.)

THERE is a wide and ever increasing demand among the farmers in America for a good profitable dual purpose breed of cattle. The price of feed has become so high that the farmer can no longer afford to keep a cow that gives but enough milk to raise its calf for beef purposes, for in that case the calf has to show a profit, not only above the cost of its own keep but above the cost of its dam's keep also. If, on the other hand, instead of being a heavy expense, a cow can produce enough milk to properly raise its calf and to show a substantial profit for butterfat besides, it will be seen that the profits from beef production can be very greatly increased.

Practical experience and demonstrations by many different State Experiment Stations have proven two facts: first, that on the arable farm the dual purpose cow is more profitable than the specialized beef type; and, second, that the Holstein is the most profitable dual purpose cow.

The first fact is proven by the tests conducted by the Michigan Experiment Station, in which it was shown that the dual purpose steer averaged \$41.27 more net profit per head than the beef type of steer. In Bulletin No. 261 it is stated that the dual purpose or "skim milk fed lot of baby beeves showed as good a condition of flesh and quality as the suckled lots and were nearly equal in weight," and that "baby beef production by the skim milk method is much cheaper and gives better results than by suckling methods."

The Iowa Experiment Station states in Bulletin No. 48, after extended experiments, that "a system whereby dairying and meat making may be combined is most promising in its profits. It is not only possible to combine these qualities to a profitable degree, but also to perpetuate them, if the herd is bred especially for them. The feeding of range steers, at present prices, does not permit of securing much profit, in comparison with the returns that may be secured from the products of a herd bred for the special purpose of meeting conditions of a combination of dairying and beef making. Not only do steers from cows bred with this combination in view yield as much profit as those from the range, but returns from the cows, when used for dairy purposes, make the combination much more remunerative."

As it has been proven by actual tests that it costs \$32.32 a year to keep a beef cow solely to have a calf, while a Holstein cow will earn \$73.33 net profit in the same length of time, a beef steer has to start out in life with a handicap of over \$105 against him, which the Holstein steer has to its credit at birth.

In the past the dual purpose question has been discussed from the standpoint of whether the Shorthorn or other beef breeds

are profitable for milk production, with a result, generally, to the discredit of the dual purpose type, and, on the other hand, the fact has been apparently overlooked that the Holstein is a most profitable breed for beef.

According to the results of the tests reported in the Michigan Experiment Station Bulletin No. 257, the Holsteins make much larger daily gains and at a less cost per pound than any of the leading beef breeds. In the first test, seven Holstein calves averaged 714 lbs. apiece at one year of age, at a cost of \$3.76 per cwt., and two Shorthorn calves averaged 571 lbs. at a cost of \$4.82 per cwt. In the second test, six Holstein calves averaged 773 lbs. at a cost of \$3.97 per cwt., and six Shorthorns averaged 706.1 lbs. at a cost of \$5.16 per cwt. Another group of ten Shorthorns averaged 643 lbs. at a cost of \$4.32 per cwt., a group of ten Angus averaged 682 lbs. at a cost of \$4.97 per cwt., and a group of ten Herefords averaged 629 lbs. at a cost of \$4.20 per cwt.

The Iowa Experiment Station reports, in Bulletin No. 81, a test with the following results:

	<i>Hereford</i>	<i>Angus</i>	<i>Holstein</i>	<i>Jersey</i>
Weight at beginning,	683	685	526	622
Average gain per steer,	644	568	677	518
Amount of Grain per lb. gain,	8.76	9.18	8.21	9.24
Amount of Roughage per lb. gain,	3.71	4.13	3.59	4.35
Average cost per lb. gain,	\$3.076	\$3.0802	\$3.0712	\$3.0812
Per cent of dressed weight,	60.8	62.8	58.9	55.4
Per cent of Loin,	17.59	17.56	17.59	16.58
Tallow, lbs.,	88.	64.5	56.2	113.2

The Holstein thus made a larger average gain per steer and at a less cost per pound of either roughage or grain than any of the other breeds. The percentage of dressed weight was $3\frac{1}{2}$ per cent above that of the Jersey and less than 3 per cent below the average of the two beef breeds, but the Holstein ranked ahead in respect to the percentage of loin, the highest priced beef cut. The Holstein also produced the smallest percentage of tallow, showing that the breed does not carry an excess of cheap fat, which is characteristic of scrub steers. The Holstein steers made an average of \$14.87 net profit to the wholesaler, while the Angus averaged but \$9.25 and the Hereford but \$5.13 net profit. This wonderful showing by the Holstein steers was made in spite of the fact that the steers chosen were not fair representatives of that breed and that they were fed for too long a period, in the case of dairy steers.

The Station states that "Kidney fat is a cheap product and, while it counts in dressing per cent, it only serves to reduce the value of the carcass, where it is present in excess. Reference to the tables show that No. 3, a Jersey, possessed 21 lbs. of this cheap product, while No. 7, an Angus, had but 11.5 lbs., despite his greater weight. This confirms the contention often made that steers of dairy type carry an unnecessary amount of waste fat."

Glancing over the figures, however, we find that the Holstein steers possessed only 15 lbs., the Angus 23.5 lbs., the Hereford 28.5 lbs., and the Jersey 37.5 lbs. of this product, showing that this sweeping conclusion as to steers of dairy type is absolutely fallacious in the instance of the Holstein steers.

The Ohio State Experiment Station, in Bulletin No. 60, reports a test in which the Holsteins made larger gains and at a less cost per pound than the Shorthorns:

	<i>Gain in 120 days</i>	<i>Cost per lb. gain</i>
5 Holsteins	255	\$7.67
23 Shorthorns	241	7.94

The Nebraska Experiment Station has probably made the most exhaustive and conclusive beef tests that have ever been made. Forty-eight calves representing the different breeds were put through two extended tests. In the first test, the Holsteins averaged \$3.68 profit per head, the Shorthorns, \$2.07, the Herefords, \$1.61, the Angus, \$1.34, the Guernseys, 21c, the Jerseys, 63c, and the Red Polls, 21c. In the second test, the Holsteins averaged \$4.14 profit per head, the Shorthorns, \$3.28, the Angus, 80c, and the Guernseys, 76c; the Red Polls lost 97c, and the Jerseys lost \$2.14. The Holstein Steer No. 19 made \$16.61 net profit, or more than any other steer in these two tests. The heaviest Holstein weighed 1,082 lbs. at the end of the test, the heaviest Hereford, 1,040 lbs., the heaviest Shorthorn, 1,032 lbs., the heaviest Angus, 925 lbs., the heaviest Guernsey, 950 lbs., the heaviest Red Poll, 920 lbs., and the heaviest Jersey, 920 lbs. The following is the average of both tests:

	<i>Av. daily gain</i>	<i>Cost per 100 lbs. gain</i>	<i>Profit per steer</i>
5 Holsteins	1.86 lbs.	\$6.61	\$7.82
24 Shorthorns	1.58 lbs.	7.59	3.28
2 Angus	1.59 lbs.	7.72	2.14
8 Herefords	1.56 lbs.	8.06	2.09
2 Guernseys	1.59 lbs.	7.71	.97
4 Red Polls	1.48 lbs.	7.86	Loss .76
3 Jerseys	1.56 lbs.	9.83	" 1.51

The Holsteins thus made larger daily gains at a far less cost per 100 lbs. gain, and averaged over twice as much net profit per steer as any other breed.

In an additional six weeks' test, the Holsteins' total net profit amounted to \$13.82 per head, the Herefords' to \$11.92, and the Shorthorns' to \$11.69. The quality of the Holstein beef at the end of the second test proved to be practically as good as that of the beef breeds, averaging \$5.75 per cwt., while the Shorthorns averaged \$5.98 and the Herefords, \$6.12. The difference in the quality of the meat of the two types is so slight that the Holstein faculty of making gains at a so much less cost per pound makes it the most profitable breed for beef.

The Nebraska Station states, in Bulletin No. 132, that the Holstein "gains are very satisfactory and these steers can be fed with profit, especially when crossed with one of the beef breeds. The principal objection to the Holsteins for production of beef is the fact that they are very slow to fatten and must be kept in the feed lot for a longer time than is ordinarily needed by beef breeds." This, however, could not be a very serious objection to Holsteins for beef, for according to Nebraska's own experiments, only 60 per cent of the Holsteins had to be kept over an extra six weeks in order to have them sufficiently fat for market, while 66½ per cent of the total lot had to be kept over.

In another experiment by the Nebraska Station the Holsteins again proved their superiority:

	<i>Av. daily gain</i>	<i>Cost per cwt.</i>
3 Holsteins	2.05 lbs.	\$4.22
2 Herefords	1.86 lbs.	4.99
14 Shorthorns	1.92 lbs.	5.62
1 Galloway	2.41 lbs.	5.67
1 Ayrshire	2.28 lbs.	6.06
1 Dutch Belted	1.72 lbs.	6.29
3 Angus	1.22 lbs.	7.46
1 Jersey	1.64 lbs.	7.91

The Iowa Station reports, in Bulletin No. 14, the following results of a test between Holstein and Shorthorn calves:

	<i>Av. daily gain</i>	<i>Cost per lb. gain</i>
Holstein	2.22 lbs.	\$.057
Shorthorn	1.86 lbs.	.070

At the Michigan Experiment Station the Holstein breed made gains, for a year, at a less cost per pound than any other breed under similar conditions, as here shown:

	<i>Av. wt. at 1 yr.</i>	<i>Av. daily gain</i>	<i>Cost per lb. gain</i>
Holstein	876 lbs.	2.40 lbs.	\$.014
Shorthorn	777 lbs.	2.13 lbs.	.016
Galloway	783 lbs.	2.14 lbs.	.019
Jersey	569 lbs.	1.55 lbs.	.023
Devon	521 lbs.	1.43 lbs.	.025

At the Ontario Experiment Station, the Holstein gained up to two years 1.79 lbs. daily, the Devon, 1.78 lbs., the Hereford, 1.71 lbs., and the Aberdeen Poll, 1.55 lbs.

In the Iowa Experiment Bulletin No. 20, it is reported that three Holstein calves gained 69½ lbs. apiece in a test, the highest gain being 90½ lbs., while three Shorthorn calves gained 63½ lbs. in the same length of time, the highest gain being 67½ lbs.

At the American Fat Show in 1886, the Holsteins averaged 2,127 lbs. weight, at an average gain of 1.68 lbs. daily, the Shorthorns averaged 1,934 lbs., at a gain of 1.54 lbs. daily, and the

Herefords averaged 1,958 lbs. weight, at a gain of 1.52 lbs. daily. The Holstein was also the only breed to have the hind quarters heavier than the front, as shown by the following figures:

Hereford	Hind quarters lighter than the front by 52 lbs. or - 10 %
Shorthorn	Hind quarters lighter than the front by 71 lbs. or - 11½ %
Angus	Hind quarters lighter than the front by 70 lbs. or - 11 %
Holstein	Hind quarters heavier than the front by 9 lbs. or + 4½ %

In the two-year-old class at the American Fat Show in 1885, the Holstein averaged 1,920 lbs., the Shorthorn, 1,756 lbs., and the Hereford, 1,779 lbs. The Holstein also had a larger percentage of weight in the hind quarters than any of the beef breeds. At the Fat Show in 1888, again the Holstein was the only breed to have its hind quarters heavier than the front. Thus it will be seen that the Holstein has a higher percentage of weight in the hind quarters than any other breed, a very important fact, as the highest priced cuts are in the hind quarters.

That the ideal beef and milk form may be found in the highest degree in the same breed is shown by the numerous prizes won by Holsteins at the different fat shows. At the New York State Fairs of 1889 and 1890, a Holstein cow won first prize as the best fat cow of any age or breed. Her live weight was 1,790 lbs., and her percentage of dressed weight when thoroughly cooled was 66.8 per cent or 1,196 lbs., a percentage very seldom equaled by individuals of the beef breeds.

In 1896, against very strong competition from the leading beef breeds, a Holstein cow weighing almost 2,000 lbs. won first prize as the best beef cow of any breed at the Minnesota State Fair.

Summarizing the results of these and other tests the result conclusively proves that, contrary to the general belief, large and profitable beef and milk production are correlated to an astonishing degree. In the Holstein breed, as a rule, the greater the milk producing qualities, the more perfect the work of assimilation and digestion, the larger and the more economical the gain of body weight when dry, the stronger the constitution, and the more regular the breeding, all of which qualities also tend to make beef production more profitable. A Holstein steer inherits from its dam a capacity for assimilating a quantity of feed that would make the average beef steer sweat merely to look at. According to the Wisconsin Dairy Competition, an average Holstein cow will consume enough feed above her own maintenance to produce 1,758.1 lbs. of milk solids in a year, or over three times as much as an average beef steer will gain in body weight, in the same length of time.

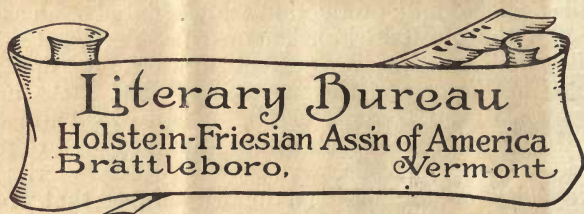
While a Holstein steer is without doubt the most economical producer of dressed beef, yet it is true that the profitability of that breed for beef is subject to some limitations. Owing to their relatively heavy body, their limbs are too light to make them as well fitted for the range as some other breeds. The fact is

that, while up to about 18 or 20 months of age a Holstein steer will have approximately the same conformation and quality as a beef steer, yet after that age he begins to partake more of the form of a dairy steer and also to lose some of his former smoothness, so that these steers are not relatively as profitable when sold as two- or three-year-olds as when fattened up to sell as baby beef.

Holstein beef possesses the desired pale red color and is very well marbled, although it does not generally have so much fat as is exhibited by a beef steer. According to such authorities as Prof. I. P. Roberts and others who have tested the qualities of both meats, Holstein beef has a superior flavor to that of the Shorthorn.

One of the most important if not the chief factor in cattle raising is that of prolificacy. In this respect the Holstein cow is much superior to any of the beef breeds, as she is easier to get into calf, due to her thinner condition, caused by her heavy milking qualities, and to the fact that the breeding qualities of the Holstein have not been impaired, as the breed has not been so highly inbred, or subjected to excessive show-ring fitting and other artificial conditions, as have the beef breeds.

Summarizing all of the results therefore, the fact is clearly proven that the dual purpose breed is a most lucrative type, and that the theory that beef and milk production cannot be profitably combined in the same breed is most erroneous and unreliable.



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